

What is claimed is:

1. A method of managing an asset, the method comprising:
operating a set of sensing devices associated with the asset using a computer system associated with the asset to acquire sensor data, wherein the computer system operates the set of sensing devices independent of a user;
evaluating at least a portion of the sensor data using the computer system, the evaluating including determining whether any sensor data in the at least a portion of the sensor data is suspect; and
initiating an action using the computer system in response to determining at least a portion of the evaluated sensor data is suspect, wherein the action includes at least one of:
adjusting additional processing of the sensor data, adjusting interaction between the computer system and at least one other system remote from the asset, or adjusting management operations of the asset.
2. The method of claim 1, the evaluating further including selecting one of a plurality of quality assessment approaches for sensor data based on a set of quality parameters and an evaluation policy, wherein the evaluation policy identifies a desired one of the plurality of quality assessment approaches for evaluating the sensor data according to the set of quality parameters.
3. The method of claim 2, wherein the set of quality parameters include at least one of: an ambient condition of the asset during which the sensor data was acquired by a corresponding sensing device, an availability of related sensor data acquired by a related sensing device associated with the asset, or an availability of sufficient historical data on the computer system.
4. The method of claim 1, the method further comprising performing further processing of the sensor data using the computer system in response to determining the at least a portion of the evaluated sensor data is valid, the further processing including at least one of: evaluating at least one attribute of an environment of the asset using the sensor data, or providing the sensor data for processing by another system remote from the asset.
5. The method of claim 1, wherein the action includes adjusting additional processing of the sensor data, and wherein the adjusting includes at least one of: setting a flag to indicate the sensor data is suspect, generating historical data corresponding to the suspect sensor data, or preventing further processing of the sensor data by the computer system.
6. The method of claim 1, wherein the action includes adjusting management operations of the asset, and wherein the adjusting includes at least one of: adjusting operation of at least one input/output (I/O) device associated with the asset, initiating a reset procedure for a sensing device associated with the asset, or adjusting at least one aspect of a scheduled maintenance for the asset.
7. The method of claim 1, wherein the action includes adjusting interaction between the computer system and at least one other system remote from the asset, and wherein the action includes at least one of: preventing transmission of the sensor data for processing by another system remote from the asset, transmitting information corresponding to the suspect sensor data for processing by another system remote from the asset, or transmitting information corresponding to an operating status of the asset.
8. A system comprising:
an asset deployed to a desired physical area;
a set of input/output (I/O) devices associated with the asset, the set of I/O devices including a set of sensing devices for acquiring sensor data;
a power system associated with the asset, wherein the power system is configured to provide all power for operating devices associated with the asset; and
a computer system including at least one computing device associated with the asset, wherein the computer system is configured to manage the asset by performing a method including:
operating the set of sensing devices independent of a user to acquire sensor data;
evaluating at least a portion of the sensor data, the evaluating including determining whether any sensor data in the at least a portion of the sensor data is suspect; and
initiating an action in response to determining at least a portion of the evaluated sensor data is suspect, wherein the action includes at least one of: adjusting additional processing of the sensor data, adjusting interaction between the computer system and at least one other system external to the asset, or adjusting management operations of the asset.
9. The system of claim 8, the evaluating further including selecting one of a plurality of quality assessment approaches for sensor data based on a set of quality parameters and an evaluation policy, wherein the evaluation policy identifies a desired one of the plurality of quality assessment approaches for evaluating the sensor data according to the set of quality parameters.
10. The system of claim 8, the method further comprising performing further processing of the sensor data in response to determining the at least a portion of the evaluated sensor data is valid, the further processing including at least one of: evaluating at least one attribute of an environment of the asset using the sensor data, or providing the sensor data for processing by another system remote from the asset.
11. The system of claim 8, wherein the action includes adjusting additional processing of the sensor data, and wherein the adjusting includes at least one of: setting a flag to indicate the sensor data is suspect, generating historical data corresponding to the suspect sensor data, or preventing further processing of the sensor data by the computer system.
12. The system of claim 8, wherein the action includes adjusting management operations of the asset, and wherein the adjusting includes at least one of: adjusting operation of at least one input/output (I/O) device associated with the asset, initiating a reset procedure for a sensing device associated with the asset, or adjusting at least one aspect of a scheduled maintenance for the asset.
13. The system of claim 8, wherein the action includes adjusting interaction between the computer system and at least one other system remote from the asset, and wherein the action includes at least one of: preventing transmission of the sensor data for processing by another system remote from the asset, transmitting information corresponding to the suspect sensor data for processing by another system remote from the asset, or transmitting information corresponding to an operating status of the asset.
14. A computer-readable storage medium comprising program code embodied therein, which when executed, causes a computer system to implement a method of managing an asset, the method comprising: